

Enhanced In Situ Sampling Capabilities with a Compact UV Laser System

Completed Technology Project (2012 - 2014)



Project Introduction

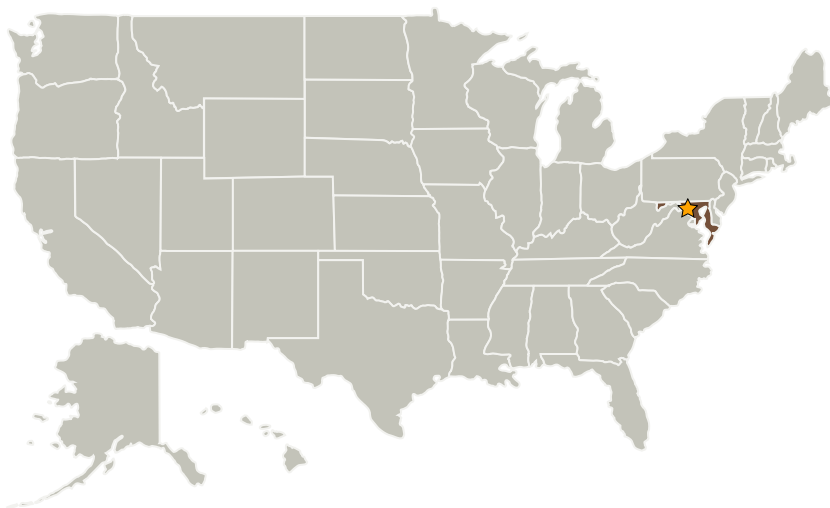
"Enhanced In Situ Sampling Capabilities with a Compact UV Laser System" explores the performance of a miniaturized and highly robust solid-state laser system that can support in situ sampling of planetary environments and small bodies coupled with mass spectrometric analysis and packaged in a flight-compatible housing.

A miniaturized, solid-state frequency-quadrupled Nd:YAG laser system will be tested for performance and mechanically packaged to support future mission-driven instrumentation.

Anticipated Benefits

Improved in situ sampling capabilities for planetary exploration.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

Maryland



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Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

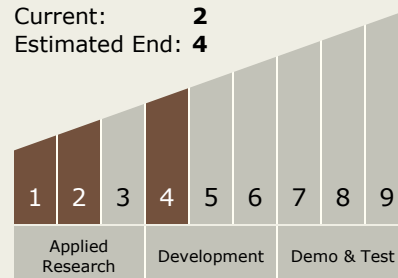
Brook Lakew

Principal Investigator:

Ricardo D Arevalo

Technology Maturity (TRL)

Start: **1**
Current: **2**
Estimated End: **4**



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Technology Areas

Primary:

- TX03 Aerospace Power and Energy Storage
 - └ TX03.1 Power Generation and Energy Conversion
 - └ TX03.1.3 Static Energy Conversion